UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/761,634	01/21/2004	Raghavan Rajagopalan	MRD / 69DV	3347

7590 07/26/2007

WOOD, HERRON & EVANS, L.L.P.
2700 Carew Tower
441 Vine St.
Cincinnati, OH 45202

EXAMINER	
SAUNDERS, DAVID A	
ART UNIT	**PAPER NUMBER**
1644	

MAIL DATE	DELIVERY MODE
07/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/761,634	RAJAGOPALAN ET AL.	
	Examiner	Art Unit	
	David A. Saunders	1644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 April 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7,17,19-21 and 28-31* is/are pending in the application.

4a) Of the above claim(s) *28-29* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

AMENDMENT ENTRY

Amendment of 4/27/07 has been entered. Claims 1-7, 17, 19-21 and 28-31 are pending. Claims 1-7, 17, 19-21 and 30-31are under examination.

The amendment has entered no new matter.

RESTRICTION

Newly submitted claims 28-29 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

The anti-receptor internal image antibody of claim 28 and the method of claim 1 are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product. See MPEP § 806.05(h). In the instant case the anti-receptor internal image antibody of claim 28 has a use other than in the imaging method of claim 1. For example, the antibody could be used in a immunohistochemical staining method on a tissue section.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 28-29 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

OBJECTION(S)/REJECTION(S) OF RECORD WITHDRAWN

The amendment has overcome previously stated issues as follows:

The objection to the specification

The objection to claim(s) 1 under 37 CFR 1.75.

The rejection of claim(s) 2 under 35 USC 112, 2nd paragraph.

The rejection of claim(s) 2 under 35 USC 112, 1st paragraph, for failing to comply with the written description requirement.

The rejection of claim(s) 1-7 and 18 under 35 USC 112, 1st paragraph, for failing to comply with the enablement requirement.

The rejection of claim(s) 2 under 35 USC 112, 1st paragraph, for failing to comply with the enablement requirement.

The 102 rejection of claims 17-18 and 20 based upon Rajagopalan.

The 103 rejection of claims 17-21 over upon Rajagopalan in view of Ballou et al.

The 103 rejection of claims 1-7 and17-21 over upon Rajagopalan in view of Goldenberg.

REJECTION(S) UNDER 35 USC 112, SECOND PARAGRAPH MAINTAINED

Claims 1-7, 17, 19-21 and 30-31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, step g), "effective concentration remains unclear because there is no statement of what effect is to be achieved.

In claim 1, step g), "conjugate of step e)" must read as --conjugate of step f)--, since step e) recites nothing about a "conjugate".

Claim 17 remains unclear because, in its amended form, it still only recites a conjugate. Merely clarifying what the conjugate is, does not serve to clarify the nature of the composition which includes the conjugate. If there is a conjugate in a composition, there must be some other component(s), such as a diluent, carrier, etc. Applicant must correct by reciting some other composition component that is supported by the original disclosure.

Applicant's amendment has necessitated the following new ground(s) of objection/ rejection.

OBJECTION(S) TO CLAIMS

Claim 17 is objected to because of the following informalities: In claim 17, line 5, 'the dye selected" should read as –wherein the dye is selected--. Appropriate correction is required.

NEW REJECTION(S) UNDER 35 USC 112, SECOND PARAGRAPH

Claims 1-7 and 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, step d) "to result in internal image anti-receptor antibodies from (emphasis added) the anti-idiotypic antibodies" (lines 2-3) makes no sense, since "preparing monoclonal anti-idiotypic antibodies" (line 1) results simply in "monoclonal anti-idiotypic antibodies", irrespective of whether or not they are "internal image" anti-idiotypic antibodies. Perhaps applicant intended to recite --to result in internal image

anti-receptor antibodies being among the anti-idiotypic antibodies--? However, note the 112, First Paragraph rejection, further infra, indicating lack of enablement of isolating the former from the latter.

NEW REJECTION(S) UNDER 35 USC 112, FIRST PARAGRAPH

Claims 2 and 7 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 1 has been amended to be limited to the case in which the "ligand" of step a) binds to the heat stable toxin biological receptor; thus the "target site" of steps (h) and (i) would necessarily be one which has heat stable toxin biological receptors, to which the conjugate binds. The Markush group of claim 2 contains numerous members which would have no ligand binding relationship to the heat stable toxin biological receptor of claim 1. The Markush group of claim 7 contains numerous members which would not serve as a target site, at which the conjugate of claim 1 would accumulate.

Regarding claim 2, applicant has disclosed nothing about the nature of the heat stable toxin receptor, except what was incorporated by reference from US Pat. 5,518,888. Therein, one finds no teaching of any kind of "ligand" for the heat stable toxin receptor, except for a peptide ligand. One finds, for example, no teachings of other kinds of ligands, such as drugs, hormones, carbohydrates, peptidomimetics, and

glycomimetics. Given what Pat. 5,518,888 teaches about the nature of the ligands of the ST receptor, one of skill would not expect that the various recited ligands which are not peptides would be usable in step a) of claim 1.

Regarding claim 7, applicant has disclosed nothing about the distribution/ localization of the heat stable toxin receptor (ST receptor), except what was incorporated by reference from US Pat. 5,518,888. Therein, one finds no teaching of any kinds of cells/tissues that express this receptor, except for normal colorectal cells and colorectal cancer cells (col. 3, lines 60-67). Therein one finds no teachings about expression of the ST receptor in lesions, necrotic regions, ischemic regions, thrombotic regions, inflammatory regions, or impaired vasculature. Also, one finds no teachings about any kinds of tumors/cancers other than colorectal tumors/cancers. One of skill would thus not expect that the conjugate of instant claim 1 would be capable of accumulating at such recited target sites that show no expression of the ST receptor.

Claims 1-7 and 30 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 1, step e) requires that one isolate "the internal image anti-receptor antibodies from the anti-idiotypic antibodies". One of skill would be aware that only some of the anti-idiotypic antibodies that would result from immunization with the "first

generation of monoclonal antibodies", as in step d), would be internal image antibodies. Note, for example, the definition of "internal image" taught by Cruse et al. Note, also, Fig 4.12 of Roitt. In applicant's disclosure, however, one finds no direction as to how one would isolate the fraction of anti-idiotypic antibodies that constitute the "internal image" anti-receptor antibodies from the whole set of anti-idiotypic antibodies that would result from immunization conducted in step d). In applicant's single exemplification (Example 1), applicant has merely prepared "anti-idiotypic digoxin antibody" from ascites fluid by precipitation with saturated ammonium sulfate (para. [0059] of applicant's disclosure, as published in US 2004/0151667). Such precipitations are art known as a means of precipitating all immunoglobulins, irrespective of their V-region structural features. Applicant's teachings in Example 1, thus show absolutely nothing that pertains to isolating "internal image" anti-receptor antibodies.

Since applicant has not disclosed how to isolate "the internal image anti-receptor antibodies from the anti-idiotypic antibodies" and since such a step would not be necessary (since there would be "internal image anti-receptor antibodies" among the "anti-idiotypic antibodies"), it is suggested that applicant delete step e) of claim 1.

REASONS FOR ALLOWANCE OVER PRIOR ART

The following is an examiner's statement of reasons for allowance over the prior art of record:

The claims have been amended to be limited to imaging of the heat-stable toxin (ST) receptor. Waldman (5,518,888 of record) teaches imaging of the ST receptor with

peptides that are derived from the natural ligand of the ST receptor. If one already has these peptides that can be used in imaging, there would be no motivation to use these peptides as immunogens to make a "first generation of monoclonal antibodies" and to then use this "first generation of monoclonal antibodies" as immunogens to make "anti-idiotypic antibodies" to be used in place of the peptides of Waldman.

FINALITY

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

CONTACTS

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David A. Saunders, whose telephone number is 571-272-0849. The examiner can normally be reached on Mon.-Thu. from 8:00 am to 5:30 pm. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Chan, can be reached on 571-272-0841. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Typed 7/20/07 DAS

David A Saunders

DAVID A. SAUNDERS
PRIMARY EXAMINER